

## Foreign Assistance, Innovation, and Progress

As I write this, my wife, Melinda, has just returned from a visit to Tanzania with members of a congressional delegation, led by Senator Lindsey Graham, to learn more about global health and development programs.

Reflecting on the trip, Melinda said the high point was meeting Joyce and Raymond Sandir, small farmers who eke out a living growing maize and a few other crops and selling milk from their single cow. When Melinda asked them about their experience with a new, higher-yielding, disease-resistant maize seed, Joyce said their income had more than doubled. Although the Sandir family lives without running water or electricity, Joyce didn't hesitate when one Senator asked what she planned to do with the extra money. She said she would pay for more education for her children.

For Melinda, the visit was another reminder of why we do this work. For members of the congressional delegation, it was a chance to see first-hand the impact that development aid has on people's lives. A few pounds of healthy seed that wouldn't be given a second thought in wealthy

countries can trigger a virtuous cycle of health and productivity in poor countries. Farmers can feed their families. Children can go to school and become valuable members of the community. Local economies grow, strengthening the social and economic fabric of nations. Eventually, these countries are in a position to offer development assistance to other poor countries.

Some, like Korea, have made the full transition and no longer rely on official development assistance (ODA). Others, such as Mexico, Brazil, India, and China, are following a similar path. These aren't isolated examples in a few lucky countries. In the past 50 years, advances in agriculture saved a billion people from starvation. Vaccines and other medical advances reduced childhood deaths by more than 80%. The proportion of people in extreme poverty has been cut in half. The Sandir family is one example among many millions.

Despite these successes, some policymakers favor pulling back on government aid. Some say that development assistance is not being used



**Saboune Adakar Abdoukaye lost everything when militia destroyed his village in Chad. Now living in an IDP camp in Goz Beida, Chad, Saboune opened a shop with the help of World Concern's Cash for Work program, which is funded by USAID. He supports 13 children, and his business employs seven other people.**

Photo: Derek Sciba/World Concern

efficiently, despite the results of the past 50 years. Others say we simply can't afford to be generous in this difficult economy. Yet, ODA represents a tiny fraction of government spending in the U.S. and other wealthy nations. Reducing aid levels will undermine global stability, limit the growth potential of the world economy, and affect the livelihoods of millions of the poorest people.

The simple fact is, aid works, and I believe we can build on the generosity, knowledge, and lessons learned over the last half-century to create even more effectual aid programs. Aid agencies in rich countries, such as the United Kingdom's Department for International Development (DFID) and, more recently, USAID, are seriously

re-examining their priorities and the effectiveness of their strategies and partnerships.

But aid is only part of the story. It's important for policymakers to understand that rich countries are not shouldering the burden of helping the poor all by themselves. Right now, there are more new resources available for development than ever before, and I'm optimistic about the progress we can make if we combine these resources in innovative ways.

A number of rapidly growing countries, international NGOs, and philanthropic organizations have emerged over the last decade, injecting much-needed money, skills, and new ideas to complement the successful efforts of traditional donors.

The private sector is getting increasingly savvy about applying its capacity for innovation to development programs. Meanwhile, a growing number of poor countries are taking a more active role in charting their development path. I'm excited about the possibilities offered by these shifts.

Several years ago, Melinda and I decided to devote our full-time efforts to global health and development, and improving education in the United States, because we saw the potential for impact. Today, I'm more convinced than ever that investments in development can make a huge difference.

Last November, I was invited to speak to G20 leaders at the Cannes Summit about powerful innovations such as new seeds and vaccines and new ways to deliver them. Building on the report I submitted to the G20, this essay explores a number of innovative strategies that can enable us to make meaningful progress on the UN's Millennium Development Goals and, most importantly, help the poorest countries feed, educate, and employ their people.

## **Tapping a Growing World of Expertise and Resources**

The knowledge and skills of rapidly growing countries represent an important new development resource. Countries such as Brazil, China, India, and Mexico are in a great position to work with poor countries because they have recent experience reducing poverty within their own borders. Having successfully navigated the development process, these countries have a sophisticated understanding of what poor countries need and the technical capabilities to innovate to meet those needs.

I'm particularly excited about the use of "triangular partnerships" among rapidly growing countries, traditional donors, and poor countries that combine the resources, skills, and knowledge

each party is best equipped to contribute. In the long run, I believe this approach could accelerate innovation in many key areas of development, including agriculture, health, education, governance, and infrastructure.

One great example is the successful development of a vaccine for meningitis A, a major cause of illness, disability, and death in Sub-Saharan Africa. After the largest meningitis epidemic in African history killed more than 25,000 people in the mid-1990s, African health leaders asked for a better weapon to fight such outbreaks. The World Health Organization and the international nonprofit PATH created a partnership with the for-profit Serum Institute of India to develop the first-ever vaccine specifically for poor countries. To manufacture the vaccine at the target price of 50 cents a dose, the Serum Institute obtained raw materials from a Dutch biotech company and arranged a technology transfer from the U.S. Food and Drug Administration.

The resulting MenAfriVac vaccine was developed, tested, and produced in less than half the time and less than one-tenth the typical cost of bringing a new vaccine to market. When it was launched in late 2010, extensive government education campaigns helped build trust and awareness. To date, 65 million people have been vaccinated and already there has been a dramatic reduction in death and illness. Over the next 10 years, research shows, the vaccine could prevent more than 1 million cases of meningitis A, and \$300 million that would otherwise have been spent on diagnosis and treatment will be freed up for other development needs.

Brazil's work with Japan to help poor farmers in Mozambique grow soybeans, rice, and other crops is another impressive example of the power of triangular partnerships. Thirty years ago, Japan helped Brazil adapt the soybean to grow in its



**USAID is supporting the electrification of rural schools in Afghanistan through projects like the Afghanistan Clean Energy Program, which created a 2-kilowatt solar-powered system for Shaheed Mahmoodi High School in Band-e Amir National Park in Bamiyan Province.** | Photo: Robert Foster/Winrock International

tropical savanna, and Brazil soon became one of the world's largest producers of soybeans. Now, Brazil is helping Mozambique—one of the poorest countries in the world—adapt soybean, rice, and other crops to grow in its savanna. Japan is helping Mozambique upgrade its port, road, and rail infrastructure to make it easier for farmers to export their crops.

In recent months, the foundation has signed agreements with both Brazil and China to advance other potentially game-changing partnerships. Our goal is to encourage these countries to apply their world-class expertise in agricultural research and their growing strength in the health sector to the needs of poor countries.

In China, we are working with the Ministry of Science and Technology to jointly fund the development of high-yielding staple food crops, making it easier for small farmers in poor

countries to grow and sell a surplus. This builds on great progress we're already seeing on the Green Super Rice (GSR) project—a partnership between the Chinese Academy of Agricultural Sciences and researchers and seed suppliers in 15 countries in Africa and South Asia. The GSR project is key to increasing food security in Africa, where rice is a staple but yields are extremely low. In just two years, the GSR partnership has led to more than 20 new varieties—currently being tested prior to release—for their ability to withstand drought, salty soils, submergence, and disease. GSR has also trained nearly 500 technicians and researchers in cutting-edge rice breeding and seed production technologies.

There are also opportunities to form partnerships with manufacturers in China that could make important vaccines more cheaply than they are available today. For example, in the final push

to eradicate polio, we believe Chinese manufacturers will be able to provide new, high-quality polio vaccines at prices that are affordable for the eradication program.

Our agreement with Brazil's Ministry of Health is built on the same principles. Brazil can play an important role in furthering research to better diagnose and prevent tuberculosis (TB). TB still kills 1.5 million people a year. Rapid, accurate, and inexpensive detection remains difficult. And a growing number of the nine million new active cases each year are resistant to existing drug regimens. Brazil is piloting a promising new test—GeneXpert—in two Brazilian cities. According to initial research, GeneXpert is 95% accurate, can detect TB in less than two hours, and is capable of identifying cases that are resistant to certain TB drugs. The results of these pilots could help poorer countries with TB detection. Brazil is already working with Mozambique, where the TB rate is high and on the rise, to build lab capacity to improve TB diagnosis.

In another potentially significant partnership, Bio-Manguinhos, a Brazilian immunobiological research institute, is working with partners to explore novel technologies to manufacture proteins for vaccines that could prevent yellow fever and other diseases such as malaria and human hookworm. These partnerships are still in the early stages, but I'm positive about the solutions they will produce in the near future. The rapidly growing countries have a combination of knowledge and technical capacity that the world has never seen. Tapping into that for the benefit of poor countries is one of the most important things we can do.

## **Harnessing Private-sector Investment**

Drawing on the expertise, resources, and goodwill of the private sector is another huge opportunity,

and a great example is the newly announced partnership among 13 pharmaceutical companies; the World Bank; the governments of the United States, United Kingdom, and United Arab Emirates; our foundation; and a number of endemic countries struggling under the burden of neglected tropical diseases (NTDs). These parasitic and bacterial infections—transmitted through insect bites, worms in the soil, and other means—are sapping the health and strength of a billion people, half of them children. Although many organizations and pharmaceutical companies have tried to tackle various NTDs, their efforts have often been siloed and of limited effectiveness due to critical gaps in drug supply, distribution, and R&D.

The new partnership is designed to fill those gaps, improve coordination, and draw on the strengths of each participant. For example, five pharmaceutical companies are engaged in cross-company R&D to accelerate the development of an oral drug to kill adult worms that cause river blindness and lymphatic filariasis. Currently, no such drug exists—leaving a billion people worldwide at risk of contracting these extremely debilitating diseases. Once the new drug is developed, donor governments and organizations will work with endemic countries to distribute the drug and implement treatment programs. The aim is to meet the WHO goal of controlling or eliminating 10 NTDs by 2020. More broadly, this collaboration can serve as a model for involving the private sector to advance global development.

There is also growing interest in leveraging private investments for social enterprises, such as private health clinics and schools, and to help poor countries expand their infrastructure in both rural areas and fast-growing urban centers. Many rapidly growing countries have a large source of funds that could be tapped for this: sovereign wealth funds (SWF). An infrastructure fund financed by

just 1% of SWF assets would start at \$40 billion or more, and could exceed \$100 billion based on projected SWF growth over this decade. Given the scale of the infrastructure needs in poor countries—\$93 billion a year just in Sub-Saharan Africa—there is a compelling reason to mobilize this pool of savings for development.

An infrastructure fund must offer a market-related return while providing financing for poor countries on concessional terms. This means that donors and multilateral development banks need

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to find creative ways—through guarantees, co-financing, and other mechanisms—to bridge the gap between the return that sovereign investors expect and the lower interest rates and extended maturities that borrowers need.

Another major source of private capital for development is diaspora communities, which contributed \$325 billion in remittances to developing countries in 2010. Reducing remittance transaction costs to an average of 5%—compared to the current average of roughly twice that—would free up \$15 billion that could be invested for development. Diaspora communities can also invest in bonds to finance infrastructure projects. Israel and India have already issued tens of billions of dollars of such bonds, and now Nigeria, Kenya, and the

Philippines are considering issuing their own. The African diaspora alone is sitting on an estimated \$50 billion in savings. There may be ways for aid agencies and development finance institutions in migrants' host countries to help make these bonds more attractive—by forming partnerships with banks from investors' home countries, for example.

Finally, there are innovative ways to incentivize R&D on new products. Several years ago, our foundation worked with partners to help create something called an Advance Market Commitment for a pneumonia vaccine. The vaccine didn't exist yet, but we guaranteed buyers for one as soon as it was developed. This commitment pulled in private-sector expertise, allowing a vaccine to be available much earlier. It is now being rolled out in 37 countries.

The theory behind the Advance Market Commitment—that the right incentives can speed the development of products where there has been a market failure—is not new. In the 1920s, the Orteig Prize spurred a flurry of research on aviation advances by offering \$25,000 for the first non-stop flight across the Atlantic. More recently, development of the first nongovernmental reusable spacecraft was a response to the \$10 million Ansari X PRIZE. Both led to private-sector R&D investments far exceeding the value of the prize itself.

This concept of pull mechanisms has real promise, especially to encourage innovation in agricultural technologies. The G20 has shown keen interest in exploring this approach, and a group of committed donors, led by Canada and including our foundation, is examining potential pilots with an aim toward announcing several this year. In my report to the G20 last November, I also proposed that countries could put together a list of the highest-priority innovations needed for development. Going through the process of systematically identifying the most important breakthroughs would



Indonesian primary school students read in their school library. USAID's 2011-2015 education strategy includes a focus on improving reading skills for 100 million children in primary grades. | Photo: USAID

serve much the same purpose as the X PRIZE and could really catalyze innovation.

I spent most of my career in the private sector and am a big believer in its ability to innovate. If we can keep finding ways to match the private sector's capacity for innovation to the problems of the poorest people, we can really accelerate the development process.

### **Mobilizing Domestic Resources**

By far the largest source of financing for development will continue to come from developing countries themselves. Many poor countries could pay for more essential infrastructure such as roads, schools, and health clinics if wealthy countries encouraged greater transparency in agreements involving natural resources and best practices in

budgeting, planning, and tax collection.

Today, billions of dollars are wasted or misappropriated because of the way contracts to extract oil, gas, and minerals are negotiated, written, and administered. In Uganda, for instance, it is estimated that at peak production, oil reserves would generate \$2 billion per year. In a country with a national budget of \$3 billion, that amount of oil revenue would have a huge impact on the government's ability to address the needs of millions of poor Ugandans. However, citizens have no insight into the country's oil-leasing arrangements, and, as a result, Ugandan citizens have no means to protect their interests.

The Extractive Industries Transparency Initiative (EITI) is a step in the right direction. In Ghana, it was revealed through EITI that mining

companies were paying an average royalty of just 3%. Civil-society groups worked with government leaders to set a 6% minimum royalty for new projects. The problem is that EITI is a voluntary initiative, and only five African countries are currently compliant, though more are working toward it.

Wealthy countries can also help by passing legally binding transparency requirements for mining and oil companies listed on their stock exchanges, to ensure that natural resources are well managed. Another idea that makes sense is a natural-resource charter that governments can adopt to encourage appropriate management and transparency of land, timber, and other natural-resource-related deals

Simply collecting taxes more effectively under existing systems would also make a big difference. Tanzania, for example, increased its tax revenue from 10% to 16% of gross domestic product (GDP) between 1998 and 2008, generating an additional \$2.2 billion annually. According to the International Monetary Fund, basic tax reforms throughout Sub-Saharan Africa would raise at least \$20 billion a year at today's GDP.

South Africa is providing leadership in this area, working with several neighboring countries on the Collaborative Africa Budget Reform Initiative (CABRI), which brings together senior budget officials from African ministries of finance, planning, and development to share knowledge.

These domestic resources will make the biggest difference if they are directed toward poverty-reducing priorities such as agriculture and health, which have a proven track record in terms of development impact. According to the World Bank, growth in the agricultural sector reduces extreme poverty more than growth in any other sector. In 2003, African leaders signed the Maputo Declaration, pledging to increase spending on agriculture to 10% of national budgets as part of the Comprehensive Africa

Agriculture Development Programme (CAADP). So far, eight countries have reached that benchmark—an important indicator of progress.

The benefits of investments in health are incredibly far-reaching. Disease saps the greatest resource that poor countries have available—the energy and talent of their people. When parents know their children are likely to survive, they choose to have smaller families. As a result, they're better able to feed and educate their children—which kicks off a virtuous cycle of productivity and economic growth. In 2001, as part of the Abuja Declaration, the heads of state of the African Union countries promised to allocate at least 15% of their budgets to improving health. So far, however, only two countries have met their pledge.

Governments can also increase their impact by building the capacity to evaluate their development spending. One pioneer in this area is Mexico, which established a National Council for the Evaluation of Social Development Policy (CONEVAL). CONEVAL publishes annual performance reviews for major government programs and measures progress toward national development targets. Similar bodies are taking shape in Argentina and India. Wealthier countries could extend their leadership in this area by forming a public-private partnership to help developing countries conduct cost-benefit analyses—real-world comparative studies that evaluate the most effective ways to tackle development. A partnership modeled on CONEVAL could help address common methodological issues and set benchmarks so findings would be more easily comparable across countries.

## **Rethinking Development Aid**

Although I'm excited about the growing investments poor countries are making in their own development, I am also convinced of the need for



wealthy countries to continue investing in ODA. Today, it accounts for about 1% of public spending in the United States and most other donor countries. That amount of money isn't causing the world's fiscal problems, and cutting back on ODA isn't going to solve them. Aid is a small investment that generates a huge return.

Few would argue, though, that ODA investments can't be improved. In the United Kingdom, DFID undertook a top-to-bottom review that looked at where aid was most needed and where it would have the greatest impact. As a result, DFID reduced the number of countries where it concentrates resources from 43 to 27. The agency also looked at the impact and value of its partnerships with global development agencies. This led to the elimination of funding for the least-effective agencies, requests for improvements from others, and an increase in funding for the best-performing organizations—such as the GAVI Alliance for vaccinations; United Nations Children's Fund; and the Global Fund to Fight AIDS, TB, and Malaria.

USAID recently launched USAID Forward, an ambitious reform effort. This is a big challenge for an organization that has been saddled with many responsibilities, but has not always had the leadership, authority, resources, or flexibility needed to implement meaningful changes. I know Raj Shah, the administrator of USAID—he used to work at our foundation—and I admire his commitment to creating a coherent vision and strategy. These efforts to increase transparency, improve monitoring and evaluation, and develop more innovative needs-based aid strategies are definitely a step in the right direction.

The foundation recently joined with USAID and others to fund a program called Saving Lives at Birth, which has a goal of significantly decreasing maternal and newborn deaths in poor, rural areas. Each year, 150,000 women and 1.6 million

children die during the critical period from the onset of labor through the first 48 hours after birth. In Sub-Saharan Africa, women are 135 times more likely to die during childbirth than women in developed countries. Many of these deaths could be avoided, but we need better tools to prevent, detect, and treat maternal and newborn problems. The idea behind Saving Lives at Birth is that researchers with great ideas about how to solve these specific problems get small grants to see where those ideas lead. This is the kind of focused, innovative approach that can generate breakthrough solutions.

Effective aid focuses in three key areas:

- Programs that contribute to the achievement of the Millennium Development Goals and concentrate on the countries that most need assistance
- Easy-to-understand, real-time information about programs that enables the development community to analyze what's working and what's not
- Evaluation of the impact of development programs so we can sort through various approaches and gradually get better at the entire enterprise

There are major development programs that meet these criteria. In 2011, a number of donors stepped up to meet the fundraising goal set by the GAVI Alliance, the organization responsible for helping poor countries buy and deliver vaccines. It was one of the most inspiring moments in my career at our foundation. Vaccines are phenomenally cost-effective. And because of GAVI, the world will bring the newest vaccine technology to almost all children right away, rather than making the poor wait, and die, for 20 years before the innovation trickles down.

The number of lives saved, as impressive as it will be, doesn't capture the full benefits of vaccination. Disease disables many more children than it



**Pupils sit in class at Olympic Primary School in Nairobi. An estimated 79,000 teachers are needed to reach the internationally recommended teacher to student ratio of one to 35. In many Kenyan public schools there are more than 50 students for every teacher.** | AFP Photo: Simon Maina

kills. Take the example of diarrhea. It kills about 1.5 million children every year, but it affects hundreds of millions more. Frequent bouts of diarrhea make it harder for children to absorb nutrition, which interferes with their mental development. There is now a vaccine for rotavirus, the leading cause of diarrhea, and GAVI will make sure it is given to hundreds of millions of children. This is a model of aid effectiveness.

China signing on to the Busan Partnership for Effective Development Cooperation is another sign of progress. It was the first time that one of the rapidly growing countries has pledged itself to the principles that traditional donors agreed to in 2005. We still have a way to go before everybody adopts best practices. Participants couldn't agree on new indicators of aid effectiveness or a monitoring system. It will be important for the United States to play a leadership role in forging a meaningful monitoring

system that is flexible enough so that it makes sense in the diverse development arena but also rigorous enough that it guarantees better results.

### **From Technology to Philanthropy**

People often ask what prompted Melinda and me to start second careers in philanthropy. Growing up, I saw both of my parents deeply involved in community and philanthropic activities. My dad did a lot of pro bono legal work, helped establish legal services for the poor, and campaigned for better school funding. My mom worked tirelessly on issues affecting children, was the first woman to chair United Way's national executive committee, and as a University of Washington regent in the mid-1980s led the effort to divest the university's holdings in then-apartheid South Africa.

At Microsoft, we established one of the first philanthropic programs in the high-tech industry,

and I learned a lot about how Microsoft could use its technology, expertise, and resources to advance social and economic development.

Community service was also an important part of Melinda's upbringing, so when we got married in 1994, we started thinking about how we could give back much of the wealth Microsoft was creating and where it could have the greatest impact. We came across a newspaper article that talked about a handful of preventable diseases responsible for most childhood deaths in poor

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countries. One of them, rotavirus, was killing half a million children a year. We were shocked, and started asking how a disease we had never even heard of could be killing so many children. This question eventually led us to invest in developing a rotavirus vaccine. And that experience helped us really understand what can be accomplished through effective partnerships and innovation.

In 2006, our friend, Warren Buffett, decided to pledge a significant amount of his personal wealth to the foundation. Over the next couple of years, Melinda and I decided that the most important contribution we could make was to get involved full-time in the work of the foundation and in making sure that people know the real story

**Pakistani mother Mozamman holds her 2-year old twin sons Amanollah (R) and Samiollah (L) at her house in a poor neighborhood of Islamabad on July 21, 2010. Pakistan, population approximately 170 million, has in the last decade achieved an annual population growth rate of under 2%.**

AFP Photo: Behrouz Mehri

about the impact of development programs.

It's popular these days in certain circles to discredit aid as inefficient, wasteful, and unnecessary. My experience, and the evidence, proves that is not the case. Aid is an important part—but only one part—of a 50-year record of improving the lives of the poorest. Scientific and technological innovations have enabled us to create vaccines that have saved billions of lives and alleviated an enormous amount of human misery. Higher-yielding seeds have fed starving children, improved the health of millions, and lifted countries from poverty.

But there is more work to be done. A malaria vaccine in Sub-Saharan Africa would dramatically improve the economic outlook there. More types of hearty, productive seed varieties are desperately needed and will save lives in many countries, nourish children, and guarantee food security for the world. There are all sorts of new resources we can draw on to continue the progress of the past—and speed it up.

By continuing to invest thoughtfully and strategically in innovative partnerships, scientific research, and new delivery mechanisms, we can keep shrinking the number of countries where aid is needed—eventually to zero.

**Bill Gates** is the chairman of Microsoft, U.S.A. and the co-founder and co-chair of the Bill & Melinda Gates Foundation. The views expressed in this essay are his own, and do not necessarily represent the views of the United States Agency for International Development or the United States Government.